EFFECT OF INFECTION WITH INTESTINAL PARASITIES ON BLOOD PICTURE +

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Abstract

This study was performed from December ٢٠٠٤ to March ٢٠٠٥ to investigate the prevalence rates of intestinal parasites and blood picture of patients who were suffering from different intestinal parasite in hospitals of AL- Hilla city center.

This study included ٥٤٠ patients from both sexes and different ages. Stool samples examinations were performing for these cases, which include direct smear method and the Scotch Cellulose Tape Technique for examination about Enterobius vermicularis in children. Certain examinations of blood picture were conducted, which included total white blood cells count, Eosinophil count and Hb determination for ٢٧٣ cases. The results of this study show that the total infection rate with intestinal parasites was ٥٠.٥% .This study record the prevalence rate of intestinal parasites as following Entamoeba histolytica ٩١(١٦.٨٥%), Giardia lambtia ٨٦(١٥.٩٢%), A .lumbricoides ٢٥(٤.٦٢%), H.nana ١٠ (١.٨٥%) , E. vermicularis ٦١(١١.٢ %).

In relation with blood picture examinations, there was significant increasing of each of total number of W.B.Cs and number of Eosinophils for patients of parasitic infections in comparison with standard normal values. In addition, there was nonsignificant decreasing tofrHb values for the patients' less than normal level of hemoglobin (Hb).

Introduction

Intestinal helminthes and **protozoa have** global prevalence, though they considerable variation both in place **and in time. The** distribution of parasites over the surf j of the earth is dependant on the presence **of wttble hosts,** the habits, and environmen conditions [١]. Estimates of the global **prevalence of intestinal** parasitic diseases are at b extremely rough. Although many studies **have been doae, aid others** are still going on, over the world, to study intestinal infection **of parasitic name, still** morbidity reporting essentially non-existent in many parts of the world, **in which these dbeases do occur** [٢].

Materials and Methods

The Patients: This study included ٥٤٠ patients of both **sexes** clinically confirmed intestinal parasite.

General Information

The information included living conditions or regions (Urban, Rural), locality, s age and education. Some information was obtained from the case sheet as a confirmatj diagnosis of intestinal disorders.

Laboratory Examination

١-Stool Examinations

Stool Samples Collection

Clean plastic cups were used for stool samples collection avoiding presence of urine or any other substances that may lead to false examination.

Stool Samples Examinations

١-Macroscopical Examination

It was performed by observing grossly the consistency of stool samples, presence helminthes, blood, mucus and other substances.

٢- Microscopical Examination

١-Direct Method

From each stool samples, smears with normal saline and lugols iodine w examined. Two direct smears were examined from each fecal sample, by preparing ١ clean dry microscope slides, each with normal saline and lugols iodine solutions, using clean fine wood stick, the stool specimen was touched in different sites, especi; where streaks of blood or pus are noticed, then mixed thoroughly with each drop normal saline and lugols iodine solutions on the prepared ٢ slides, then each half of slides was covered by cover slip. The smear was examined thoroughly under the ١ (xlO) power and high (x٤٠) power of the microscope.

٢-The Scotch Cellulose Tape Technique **<u>٢- Blood Examinations</u>**

Blood Samples Collection: Blood samples were drawn from the ٢٧٣ patients with intestinal parasite , by using ٢ml disposable syringes, ١.٥ml of this blood was put in E.D.T.A. tube for W.B.C.s count, Eosinophil count and Hb hemoglobin determination.

Blood Picture Examinations

These examinations were performed for a certain number of infected patients with intestinal disorders, in other words these patients were infected with intestinal parasites that cause intestinal disorders.

١-Total White Blood Cell Count [W.B.Cs Count] : W.B.Cs. count was performed according to [٣,٤]
٢- Eosinophil Count: Was performed by differential white blood cells count according to [٣,٤].
٣-Haemoglobin (Hb) Determination: Haemoglobin determination was performed by using Sahli method according to [٣].

Statistical Methods

T-test and Chi-squared were applied to find the significant difference between the data. P value (<Q.٠٥) were considered significant [٥].

The Results

Prevalence rates of parasitic infections that are associated with intestinal parasites were (٥٠.٥%) associated with different parasitic infections. This study record that the number and percentage of parasite as follows: Entamoeba histolytica ٩١(١٦.٨٥%), Giardia lamblia ٨٦(١٥.٩٢%), A.lumbricoides ٢٥(٤.٦٢%), H.nana ١٠ (١.٨٥%), E. vermicularis ٦١(١١.٢ %) (Table ١).

Blood Examinations

The blood picture examinations were performed for different groups of patients who were with intestinal parasites. These examinations included total white blood cells count (T.W.B.Cs count), Eosinophil count and Haemoglobin (Hb) determination.

١- Total White Blood Cells Count (T.W.B.Cs count)

This examination was performed for ٤٥ patients.They were divided into ٣ age groups and each group included ١٥ patients.The mean value ± S.D. of T.W.B.Cs count for the ١st , ٢nd and ٣rd groups was ٩٤٧٠ ± ٣٥٦٠,٩٣٧٥ ± ٣٥٤٠ & ٨٦٠٥ ±٣١٦٠ respectively (Table ٢).

٢- Eosinophil Count

This examination was also performed for ٤٥ cases who were the same three groups of patients, mentioned previously with T.W.B.Cs count. The mean value ± S.D